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MEETING ABSTRACTS

AN *IN-VITRO* INDUCTION OF PARAOXONASE 3 ACTIVITY IN HEPATOCYTES BY RESVERATROL

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BACKGROUND: Managing burden of Coronary Artery Disease (CAD) is a battle for researchers over the globe as disease seems to be multifactorial. Duet concert of genetics and environmental factors over oxidative stress and inflammation accounts for disease progression. Human Paraoxonase 3 an HDL associated endogenous antioxidant enzyme, has been identified as antiatherogenic entity. Modifiable risk factors like diet and lifestyle play a supreme role in regulating paraoxonase activity.

RATIONALE: To understand how the activity of Paraoxonase 3 can be modulated by using various pharmacological agents to derive the therapeutic benefit in CAD patients.

METHODOLOGY: After approval of Institutional review board (No.55/IAEC/293), Hepatoma derived cell line (HepG2) was exposed to resveratrol, tempol, quercetin, simvastatin and nicotine in varying doses. MTT based optimum dose was selected and measured the PON3 enzymatic activity (Spectrophotometry/ HPLC), concentration (ELISA), cellular ROS (using H2DCFH-DA), NOS (Griess assay) and protein expression (western blot) in cell lysates and supernatants.

RESULTS: Resveratrol treatment led to significant increase in PON3 activity ($p \leq 0.001$) in HepG2 cells whereas other pharmacological agents had no major significant effect on PON3 activity, expression and concentration.

CONCLUSION: PON3 induction by resveratrol translates new avenues in cardio-therapeutics.

Keywords: Paraoxonase; Resveratrol; PON3 activity

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